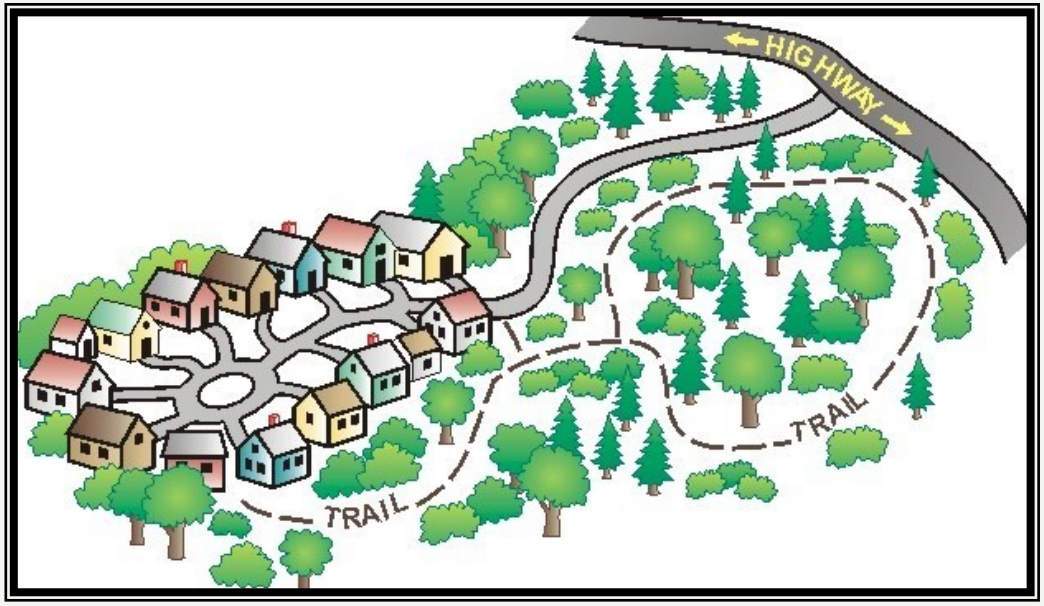
Guidebook for Designing a Planned Conservation Residential Community



Purpose & Goals

- This guidebook serves as a tool for developers to use to be able to responsibly develop land in a way that preserves open space. The developer and the Town should use this guide to work cooperatively to meet the goals of both parties.
- Creating a successful development by connecting open space while protecting environmentally and culturally sensitive areas is the goal of a Planned Conservation Residential Community (PCRC).

The Process

- Top 3 priorities: create a common land that is contiguous, unfragmented and protects existing significant wildlife habitat and corridors.
- These guidelines prioritize the assessment of the natural resources on the site as the first step for laying out the design of the project.
- The Town suggests the following process to develop property:

Step 1: Identify Natural & Cultural Resources on the Site ⇨ Step 2: Locate Open Space ⇨ Step 3: Locate Developable Land

Step 1: Identify Natural and Cultural Resources on the Site

Before the site walk-

- Perform an initial assessment by conducting a preliminary GIS mapping exercise (including but not limited to: topography, wetlands, critical habitat) to identify the resources on the site. This will give the developer a general idea of the site's development potential and known environmental constraints, awareness of the natural resources that could be compromised and encourage a thought process to preserve those natural resources as the development project is designed on the land.
- Flying a drone over the property to further identify natural resources prior to conducting a site walk is strongly encouraged.
- Town staff would like to conduct a site walk with the developer's botanist, wildlife biologist or similar qualified professional with experience in forest management prior to any preliminary plans. The intent of the site walk is to further identify and view the resources starting on page 7 of this guidebook and to help inform the existing conditions plan. Furthermore, the site walk is indented to assist the developer in identifying site significant wildlife habitat and corridors, existing contiguous open space, and to give the developer an idea of their opportunities and constraints to developing the land. When appropriate this site walk can be conducted in conjunction with wetlands delineation.
- Having an open dialogue between the developer and the Town is desired to reach a plan that reaches everybody's goals as best and reasonably as possible.

Site walk-

- The following items should be brought to the site walk:
  - A GIS map with significant known resources shown, an aerial photograph of the property, a scale, a tape measure, and a GPS
- A typical site walk agenda will be as follows:
  - Walk the perimeter of the land to understand the extent of the property, visually see the surrounding land uses and activities. When identifying surrounding land uses and activities, see how they can connect to the potential resource land. Observe and discuss surrounding land uses at least 300-feet from the property line.
- Visit the natural resource areas that were identified in the preliminary GIS and drone flyover assessment.
- Identify resources that when combined are likely wildlife corridors.
- Make observations with notations shown on a plan. Geocode and take pictures of significant locations and resources.

After the site walk-

- Step 2: Locate the Open Space
- Step 3: Locate the Developable Land

Step 2: Locate the Open Space

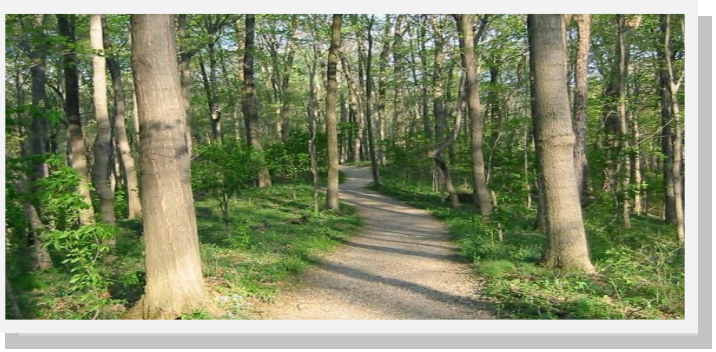
- Create an existing conditions plan with the information gathered from the site walk, wetlands delineations, mapping resources, and drone flyover if conducted.
- Town staff would like to have a follow up meeting with the developer to review the existing conditions plan and work as a team in determining the preliminary siting of open space for maximum resource protection while achieving the developer's goals. Compromising will be key because there will often be conflict in prioritizing resources.
- Conduct perk tests outside of the preliminary open space to locate the siting of a septic system, if applicable, and a draining system.
    - If the perk tests outside the preliminary open space area are unsuccessful, town staff and the developer's team will regroup and discuss alternatives.

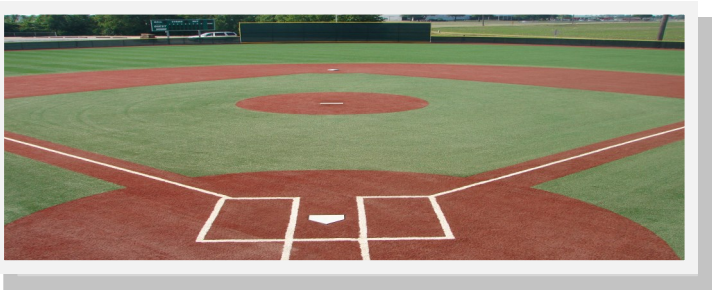
Step 3: Locate the Developable Land

- The location of dwelling units, streets, parking areas, private yards, shared amenities and accessory structures should be selected.
- When applicable the lot lines should be specified and shown on a plan.
- Locating the developable land on the property should be a thoughtful and intentional decision by this point with the protection of the priority resources at the forefront.

Managing the Common Land

Every tract of land is unique and therefore may benefit from individualized management practices. When the resources that will be preserved are selected it is recommended that a wildlife biologist or botanist be brought back to the site to create a plan for how the common land can best be managed. This is especially recommended if a home owners association or similar entity is managing these rights and responsibilities.





Creating a mechanism to preserve, protect and enhance the environmental and or cultural resources on the property is as important in this process as preserving the resource land in the first place.

Designating the type of uses that will be allowed in the open space, further than already specified in the subdivision rules and regulations, will be an important component to the management plan.

For example, a ball field is an allowable use in a common land, but determining whether a baseball field or a football field will be allowed is important. Supplementary to this, there should be a discussion about whether or not pesticides will be used, whether the field will be grass or turf, etc.

Overall Philosophy & Other Comments

- Negotiating and compromising to determine which resources areas should be preserved when there is conflict of importance is fundamental to a successful development.
- A new development should be a purposeful process that town staff wants to be made a part of.
- Allowing the Town to be proactive in the process rather than reactive will make for better relationships and as a result, more environmentally and culturally responsible developments as we move to the future.
- A goal of Acton 2020 is to "ensure environmental sustainability." This guidebook achieves this goal's objective to "move toward patterns of land use and land protection that support broad biodiversity, soil preservation, and healthy agriculture." The purpose of this guidebook is to serve as a tool to make this objective come to life. As a result, the objective to "protect the quality and quantity of Acton's water" will likely be accomplished. When buffers abutting lakes and rivers are created or preserved and development locations are a more intentional process, it is inevitable that the quality and quantity of Acton's water will be further protected.

Pictured above are examples of PCRC developments in Acton.

- The Town understands that subdivision is a by right process if an application meets the subdivision rules and regulations and zoning requirements. The Town staff will work with the developer to help with the open space siting process.
- The aforementioned Town staff involved in this development design process will typically be Planning and Natural Resource Division staff. When deemed appropriate by Planning and Natural Resource Division staff, other staff may be included in the discussions and site walks mentioned above.
- In some cases, it may make sense to replace an existing wildlife corridor with a corridor of similar appearance and purpose in a new location. For example, a 75-foot wildlife corridor consisting of trees, shrubs, etc. should be replaced by another 75-foot wildlife corridor, not by a 10-foot stone wall.
- Although there will be designated open space within the property, that is not to say that certain resources cannot be preserved within the development area on the site. This will likely be common when preserving stone walls, significant trees, etc.

Natural & Cultural Resources

The Subdivision Rules and Regulations require an existing conditions plan that shows the following natural and cultural resource characteristics on the land. Below is a list of likely resources and definitions of their characteristics.

- **Abandoned Apple Orchard:** Land that was at one point in time an apple orchard but has since been vacated and remains unmaintained. Some old tall stem apple trees might be found remaining today.
- **Archaeologically Sensitive Area:** An area that is a likely location for evidence of past human activities. The Town has an Acton Town Wide Survey Pre-contact Archaeological Sensitivity map and an Acton Town Wide Survey Post-contact Archaeological Sensitivity map that classifies certain areas of the Town into high and moderate areas of likely evidence of prior human activities. A link to these maps is provided below.

  http://doc.actonma.gov/dsweb/Get/Document-23674/Acton%20Pre%20and%20Post%20Contact%20Archaeological%20Sens.pdf
- **Edge:** The outer portion of a *patch* where the environment differs significantly from the interior. A patch is a relatively homogeneous area that differs from its surrounding. They are used by a species for breeding for breeding or obtaining other resources.
- **FEMA Flood Zones**
  - *100-year Flood Zone:* Land zoned by FEMA that is predicted to flood during a 100-year storm, having a 1% chance of occurring in any given year.
  - *500-year Flood Zone:* Land zoned by FEMA that is predicted to flood during a 500-year storm, having a 0.2% annual chance of flooding.
- **Groundwater Protection Zones**
  - *Zone 1:* The area from which groundwater will travel to a pumping municipal well within a one year time period.
  - *Zone 2:* The area within which groundwater will move toward a pumping municipal well at the end of a 180 day period.

- **Historic Resource:** A site, landscape, object or structure that is significant in its history, architecture, or culture.
- **Ledge Outcrops:** The coming out of a rock formation that appears at the surface of the ground.
- **Mixed Hardwood Stands:** A group of tress where the dominate species is deciduous and the canopy trees are 80-100 years old.
- **Meadows**
    - *Natural:* Open space land that is free of trees and large vegetation where wildflowers and grasses grow together, typically as a result of a disaster.
    - *Cultural:* Open space land containing wildflowers and grasses that dominate as a result of human disturbance.
- **Mature Pine Stands:** A cluster of conifer trees that have grown to be at least 90-feet in height.
- **Potential Recreational Resource:** An area that contains elements that make it a likely location for passive or active recreation purposes.
- **Vernal Pools:** Small shallow ponds lacking fish and experiencing annual or semi-annual periods of dryness.
    - *Certified:* Vernal Pools that have been officially identified.
    - *Potential:* Vernal Pools that have not been officially identified due to their temporary period of dryness.
- **Scenic Vista:** A picturesque view
- **Significant Trees and Communities of Trees:** A stand of trees with a mix of species and age with ecological significance as determined by a forest management specialist.
- **Soil Suitable for a Leaching Field:** Grounds with low clay content, particularly sandy soils are most suitable for a septic system.
- **Soil Suitable for Prime Agriculture:** Land that is permeable to water and air and has the best combination of physical and chemical characteristics for producing food.

- **Stone Wall:** A wall consisting of stones strategically layered that can often be a haven for small wildlife.
- **Wildlife Corridor:** An area of habitat connecting wildlife populations that allows for the movement of animals and the continuation of viable populations. This is important for maintaining biodiversity through the conservation of potentially at-risk local populations in the wild and has proven to greatly improve species richness.
- **100-foot Buffer to Wetlands:** Under the Wetlands Protection Act, removing, filling, dredging or altering land 100-feet from the edge of a wetland is prohibited without a permit from the Conservation Commission.
- **200-foot Riverfront:** Under the Wetlands Protection Act, removing, filling, dredging, or altering land 200-feet from the edge of a river is prohibited without a permit from the Conservation Commission.